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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,106	09/05/2001	Kenichi Kitano	1581/00257	1291

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EXAMINER

PENG, KUO LIANG

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/787,106	KITANO ET AL.	
	Examiner	Art Unit	
	Kuo-Liang Peng	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/5/01 Preliminary amendment.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☒ Claim(s) 4 and 11-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/13/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Applicants' preliminary amendment filed on September 5, 2001 was received.
Claims 3-5, 8-11, 14-16 and 19-23 are amended. Now, Claims 1-25 are pending.

Claim Objections

3. Claim 22 is objected to because of the following informalities:

In Claim 22 (3rd line from bottom), should “©” be -- (C) --?

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4 and 11-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 4, 11-12 and 15, the word “obtainable” is not a positive limitation, and does not constitute a limitation in any patentable sense. See *In re Hutchinson*, 33 CCPA 879, 154 F. 2d 135, 69 USPQ 138 (CCPA 1946). Applicants are advised to replace “obtainable” by -- obtained --

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 12-15, 20-21 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuda (JP 55-045761).

Matsuda discloses a polymer obtained by reacting a vinyl polymer having at least one phenol group at the main chain terminus and an aldehyde compound (col. 4 to col. 5, col. 14, col. 28, Examples and claims). The vinyl polymer can be represented by formula II wherein n can be up to 40 (col. 4). Matsuda further teaches that the vinyl polymer can be prepared by polymerizing the corresponding monomers and subsequently be subjected to fractionation to afford fractions with narrow molecular distributions such as polymer fraction with a single molecular weight (col. 8-10 and 12-13). Fractions of polymers represented by formula (II) (R_1 , R_1' are hydrogen and R_2 is methyl) with n equals 2, 3, 4, respectively, are obtained (col. 8-10 and Example 1). As such, each of the aforementioned fractions has an Mw/Mn ratio of 1.0. Shaped articles can be made by using this material (col. 14). For Claims 13-15, Matsuda is silent on the preparation of the vinyl polymer by the specific method recited in the instant claims. However, note that the instant claims are product-by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art,

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the claim is unpatentable even though the prior product was made by a different process” In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Examiner has requested the English translation. It will be available to Applicants later upon request.

8. Claims 1-4, 10-15 and 21-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hara (GB 2 075 517).

Hara discloses a heat-curable composition comprising a vinyl polymer having at least one phenol group at the main chain terminus and a phenolic resin (page 1, line 3-38, page 3, lines 16-19 and Examples). Note that the phenolic resin can optionally be formed in-situ (Example 5). The number average molecular weight of the vinyl polymer can be from 500 to 2000 (page 2, lines 1-8). Laminates, moldings, etc. can be prepared by using the heat-curable composition (page 3, lines 24-26). Hara further discloses a polymer obtained by reacting a vinyl polymer having at least one phenol group at the main chain terminus and an aldehyde compound (page 1, lines 3-38, page 3, lines 20-23 and Examples). For Claims 2- 4 and 13-15, Hara is silent on the preparation of the vinyl polymer by the specific method recited in the instant claims. However, note that the instant claims are product-by-process claims. “Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process” In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

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9. Claims 9 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hara as evidenced by Odian (Principles of Polymerization, Wiley-Nescience, 2nd Ed., 1981, pages 388-389).

Hara discloses a heat-curable composition comprising a vinyl polymer having at least one phenol group at the main chain terminus and a phenolic resin and a polymer obtained by reacting a vinyl polymer having at least one phenol group at the main chain terminus and an aldehyde compound, supra, which is incorporated herein by reference. The vinyl polymer can be prepared by polymerizing vinyl monomers using anionic initiators such as alkali metals or organometallic compounds thereof (page 1, line 39 to page 3, line 8). It is note that the vinyl polymer prepared by anionic polymerization inherently has a very narrow Mw/Mn, typically close to 1.0 as evidenced by Odian (pages 388-389).

10. Claims 1-8, 11-19 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Randolph (US 4 131 277).

Randolph discloses a heat-curable composition comprising a vinyl polymer having at least one phenol group at the main chain terminus (col. 3, lines 21-24) and a phenolic resin. Note that the vinyl polymer can be prepared by polymerizing butadiene, isoprene, chloroprene, styrene, acrylic acid, acrylate, etc. (col. 2, line 37 to col. 3, line 64 and Examples). Bowling balls can be prepared by using the instant material (col. 1, lines 5-24 and col. 4, line 16 to col. 7, line 24). The vinyl polymer can also reacted with a phenolic resin and a formaldehyde donor (col. 3, lines 18-36 and 46-56). As such, a polymer is formed in-situ between the vinyl polymer and the formaldehyde. For Claims 2-4 and 13-15, Randolph is silent on the preparation of the vinyl

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polymer by the specific method recited in the instant claims. However, note that the instant claims are product-by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randolph.

Randolph discloses a heat-curable composition comprising a vinyl polymer having at least one phenol group at the main chain terminus, supra, which is incorporated herein by reference. Randolph teaches that the molecular weight can be optimized in order to be in a liquid form, but essentially non-volatile so that it can be blended in liquid form with a different material or mixture capable of setting to a hard, strong, impact-resistant resin (col. 3, lines 3-17). In other words, the molecular weight is a Result-Effective variable. Therefore, it would have

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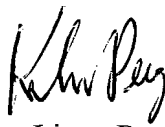
been obvious to one of ordinary skill in the art at the time of invention to prepare the vinyl polymer having whatever molecular weight through routine experimentation in order to afford a polymer which can be blended in liquid form with a different material or mixture capable of setting to a hard, strong, impact-resistant resin. Especially, Applicants do not show the criticality of the molecular weight of the polymer. See MPEP 2144.05 (II).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

klp
May 14, 2004


Kuo-Liang Peng
Primary Examiner
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